



Management Action Plan

for Defense Supply Center Richmond



October 2005

PURPOSE

In an effort to coordinate planning information among Installation Restoration Program (IRP) managers, Department of Defense (DoD) Commands, the installation, executing agencies, and the public, a Management Action Plan (MAP) has been completed for the Defense Supply Center Richmond (DSCR). The purpose of the MAP is to outline the multi-year restoration program for the installation. The MAP defines the IRP requirements and proposes a comprehensive approach and associated costs to conduct future investigations and remedial actions at each Operable Unit (OU). The MAP is used to track requirements, progress towards cleanup objectives, schedules, and estimated budgets. All site-specific funding and schedule information has been prepared according to projected overall DSCR funding levels and is subject to change during the document's annual review. Under the current project schedule and projected funding, all OUs at the installation are expected to attain Response Complete (RC) status by the end of 2021.

CONTRIBUTORS TO THIS YEAR'S MAP

NAME	ORGANIZATION
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PREPARED BY



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APPROVAL

DEFENSE SUPPLY CENTER RICHMOND

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Janet Moe
Restoration Advisory Board Community Chair

ACRONYMS AND ABBREVIATIONS

AFCEE	Air Force Center for Environmental Excellence
ANP	Acid Neutralization Pit
BRA	Baseline Risk Assessment
BRAC	Base Realignment and Closure
CAP	Corrective Action Plan
CIP	Community Involvement Plan
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
COR	Contracting Officer Representative
CRP	Community Relations Plan
CVOC	Chlorinated volatile organic compound
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
DES	DLA Environmental & Safety Directorate
DGSC	Defense General Supply Center
DLA	Defense Logistics Agency
DoD	Department of Defense
DPE	Dual Phase Extraction
DSCR	Defense Supply Center Richmond
DSERTS	Defense Site Environmental Restoration Tracking System
EBS	Environmental Baseline Survey
ER	Environmental Restoration
ESD	Explanation of Significant Differences
ESI	Expanded Site Investigation
FFA	Federal Facilities Agreement
FFS	Focused Feasibility Study
FS	Feasibility Study
FTA	Fire Training Area
FY	Fiscal Year
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTM	Long Term Monitoring
LUCs	Land Use Controls
MAP	Management Action Plan
MNA	Monitored Natural Attenuation
NASA	National Aeronautics and Space Administration
NFA	No Further Action
NOV	Notice of Violation
NGA	National Guard Area
NPL	National Priorities List
OSA	Open Storage Area
OU	Operable Unit
PA	Preliminary Assessment
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
PX	Post Exchange

ACRONYMS AND ABBREVIATIONS

RA	Remedial Action
RA-C	Remedial Action - Construction
RA-O	Remedial Action - Operation
RAB	Restoration Advisory Board
RBC	Risk Based Concentration
RC	Response Complete
RD	Remedial Design
REM	Removal Action
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SC	Site Closure
SI	Site Investigation
SVE	Soil Vapor Extraction
SVOC	Semi-volatile Organic Compounds
TCA	Trichloroethane
TCE	Trichloroethene
TRC	Technical Review Committee
TS	Transitory Shelter
USACE	United States Army Corps of Engineers
USAEHA	United States Army Environmental Hygiene Agency
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VDEQ	Virginia Department of Environmental Quality
VOC	Volatile Organic Compounds
WBU	Water Bearing Unit

SUMMARY

NUMBER OF DEFENSE SITE ENVIRONMENTAL RESTORATION TRACKING SYSTEM (DSERTS) SITES: DIFFERENT DSERTS SITE TYPES:	<p>32 DSERTS Sites - Placed on National Priorities List (NPL) in July 1987</p> <p>5 Records of Decision (RODs) completed (3 Interim) at Environmental Restoration (ER) Eligible Sites</p> <p>14 active ER Eligible Sites -</p> <table> <tr> <td>1 Open Storage Area</td><td>1 Former Landfill</td></tr> <tr> <td>1 Acid Neutralization Area</td><td>1 Spill Area</td></tr> <tr> <td>3 Chemical Storage Buildings</td><td>3 Groundwater Sites</td></tr> <tr> <td>1 Vehicle Maintenance Area</td><td>1 Gasoline Filling Station</td></tr> <tr> <td colspan="2">1 Interim Groundwater Treatment System</td></tr> <tr> <td colspan="2">1 Unlined chemical dumping area/fire training area</td></tr> </table> <p>18 inactive Sites</p>	1 Open Storage Area	1 Former Landfill	1 Acid Neutralization Area	1 Spill Area	3 Chemical Storage Buildings	3 Groundwater Sites	1 Vehicle Maintenance Area	1 Gasoline Filling Station	1 Interim Groundwater Treatment System		1 Unlined chemical dumping area/fire training area	
1 Open Storage Area	1 Former Landfill												
1 Acid Neutralization Area	1 Spill Area												
3 Chemical Storage Buildings	3 Groundwater Sites												
1 Vehicle Maintenance Area	1 Gasoline Filling Station												
1 Interim Groundwater Treatment System													
1 Unlined chemical dumping area/fire training area													
CONSTITUENTS:	Chlorinated volatile organic compounds (CVOCs), petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), pesticides, metals												
AFFECTED MEDIA:	Groundwater, soil, sediment, surface water, indoor air												
COMPLETED IRA/REM/RA:	<p>Interim Remedial Action (IRA) –Groundwater pump and treat system at OU 9</p> <p>Removal Action (REM) – Soil excavation at OU 3</p> <p>REM – Soil excavation at OU 4</p> <p>Remedial Action (RA) – Concrete cover and soil vapor extraction (SVE) at OU 5</p>												
CURRENT DSERTS PHASES:	<ul style="list-style-type: none"> • No Further Action (NFA) for soils at OU 5 • Remedial Investigation/Feasibility Study (RI/FS) at 8 OUs <ul style="list-style-type: none"> ○ Supplemental RI/FS for groundwater OUs 6, 7, and 8 ○ Revised RI/FS for soil OUs 1, 10, and 11 ○ RI/FS for soils OUs 2 and 13 • IRA for groundwater at OU 9 • Remedial Design (RD) for soils at OU 4 and OU 12, and groundwater at the Post Exchange (PX) Gasoline Station 												
PROJECTED DSERTS PHASES:	<p>ROD expected at all OUs within 4 years</p> <p>RA expected at 9 OUs (2, 6, 7, 8, 10, 11, 12, 13, and PX)</p> <p>Long-term maintenance (LTM) for all OUs</p> <p>ROD amendments expected within a year for OU 4, and within 2 years at OU 1</p>												
IDENTIFIED POSSIBLE REM/IRA/RA:	<p>Possible soils RA at OUs 2, 10, 11, 12, and 13</p> <p>Possible groundwater RA at OU 6, 7, 8, and PX</p>												
FUNDING:	<p>Prior Fiscal Years (FYs) through 2004: \$49,380 K</p> <p>FY 2005: \$ 3,867 K</p> <p>Future Requirements: \$27,241 K</p> <p>Total: \$80,488 K</p>												
DURATION:	<p>Year of IRP Inception: 1981</p> <p>Year of IRP Completion excluding LTM: 2021</p> <p>Final Deletion from the NPL: 2024 (OUs 6 and 7). Deletion of other OUs is anticipated prior to 2024.</p>												

INSTALLATION INFORMATION

LOCALE

The installation is located approximately 8 miles south of the city of Richmond, Virginia, along Jefferson Davis Highway. The installation consists of over 600 acres, approximately 1 mile wide (east to west) and 2 miles long (north to south). The property is roughly L-shaped, and the southeastern section currently consists of primarily administrative, operations, maintenance, housing, daycare facilities, and recreational areas (See Figures 1 and 2). The remaining areas include warehouses, open storage, and light industrial facilities. DSCR's current workforce is just over 2000 employees. The area surrounding the installation is primarily residential, woodland, and agricultural, with a lesser proportion of commercial/light industrial property.

COMMAND ORGANIZATION

Headquarters: Defense Logistics Agency (DLA) Headquarters, Environmental & Safety Directorate (DES)

Installation: DES Richmond, DSCR

IRP EXECUTING AGENCY

- Investigation and Remedial Design Phase Executing Agency: Air Force Center for Environmental Excellence (AFCEE) – Environmental Science Division; United States Army Corps of Engineers (USACE) – Huntsville District
- Remedial Action Phase Executing Agency: USACE – Norfolk District; AFCEE – Environmental Science Division

REGULATORY PARTICIPATION

FEDERAL: U.S. Environmental Protection Agency (USEPA), Region 3

STATE: Virginia Department of Environmental Quality (VDEQ), Division of Waste Operations

REGULATORY STATUS

- NPL Installation – 1987
- Federal Facilities Agreement (FFA) – 1990
- Notice of Violation (NOV) at OU 9 – issued 2001, resolved under Agreement dated March 2002 and subsequent Corrective Action Plan (CAP) dated April 2002

INSTALLATION DESCRIPTION

DSCR is designated as the lead center for aviation within the Defense Logistics Agency, and serves within the Department of Defense (DoD) supply chain as the primary source of supply for nearly 850,000 repair parts and operating supply items. These items include a mix of military-unique items supporting over 1,300 major weapons systems and other items readily available in the commercial market. With over 600 acres and approximately 120 warehousing, utility, and administrative buildings totaling over 6.7 million square feet, the center and its tenant activities employ nearly 3,000 civilians, Service members, and contractor personnel, whose mission is to provide critical material support across the DoD and other Federal agencies, including the National Aeronautics and Space Administration.

The United States government purchased the land from private owners in 1941, and construction activities began in September of that year. The installation was activated as the Richmond Quartermaster Depot on 1 January 1942, and in 1943 it became the Richmond Armed Service Forces Depot. The Quartermaster Branch Depot was established on-site in 1949, followed by the U.S. Army General Supply Center in 1958. DLA began overseeing operations in 1962, when the installation became known as the Defense General Supply Center (DGSC). In 1996, the installation was renamed the Defense Supply Center Richmond.

Past operations at the installation have encompassed a variety of industrial operations including the following: tent, refrigerator, and parachute repair; military vehicle and equipment overhauling; automotive engine repair and rebuilding; sanitary and industrial waste treatment and disposal; helmet refurbishing; gas cylinder refurbishing and replenishing; firefighter training; and hazardous chemical storage, recoupment, and shipping.

Current missions at DSCR include the following:

- Managing, controlling, storing, and distributing general military, administrative, and other supplies worldwide for DLA
- Recovering industrial chemicals
- Refurbishing and refilling chemical gas cylinders
- Storing and supplying operational and maintenance parts for military aircraft
- Disposing of excess inventory
- Maintaining and storing military and government vehicles
- Storing and distributing maps to DoD installations and other government agencies worldwide
- Providing professional development and training opportunities for Government supply and inventory specialists
- Maintaining the U.S. Army's National Technical Information System for hazardous substances

INSTALLATION DESCRIPTION

Between 1981 and 1984, the U.S. Army investigated areas where potential impacts to the groundwater, surface water, and/or soil might have occurred. Based on these studies, the USEPA included the installation on the NPL in 1987. USEPA, VDEQ, and DGSC (now DSCR) signed an FFA in 1990 to continue monitoring the installation, and to select, design, and implement remedial actions to assure reliable protection of human health and the environment, as required under the Comprehensive Response, Compensation, and Liability Act (CERCLA), as amended.

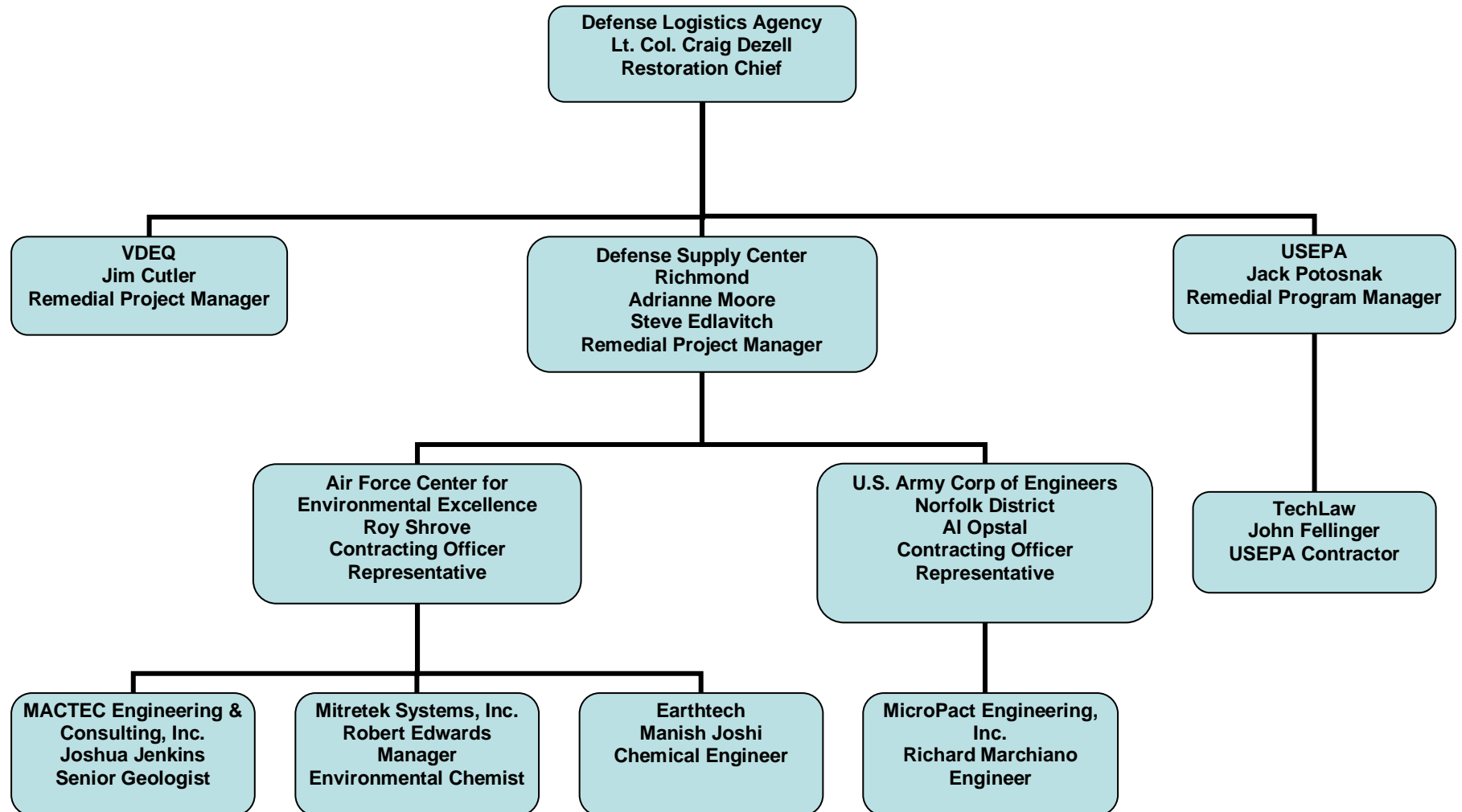
INSTALLATION DESCRIPTION

DSERTS Site Descriptions and Status

DSERTS Number	Site Description	Active
002	Transitory Shelter (TS) 202 (OU 11)	Yes
004	Malathion Contamination (Part of OU 1)	No
006	Building 68 – Polychlorinated Biphenyl (PCB) Storage (OU 10)	Yes
008	Recoupment Area (Part of OU 1)	No
009	Area 50 Landfill (OU 2)	Yes
010	Dichlorodiphenyltrichloroethane (DDT) Storage (Warehouse 9)	No
011	Asbestos Storage (Warehouse 4)	No
012	Mercury Storage (Warehouse 9)	No
013	Pesticide Storage (Roads and Grounds)	No
014	Pesticide Storage and Mixing Facility (OU 12)	Yes
015	Rubble Disposal Area	No
017	Former Fire Training Pit Soils (OU 4)	Yes
018	Waste Oil UST – MHE shop (CAP 2)	No
019	Waste Oil UST – Automotive Shop	No
020	Aluminum Phosphide Ash Burial Area	No
021	Sludge from Sewage Treatment Plant	No
022	PCB Storage	No
023	Pistol Range	No
024	Paint Residue Area (Paint Shed)	No
025	Calcium Hypochlorite Fire – 1977	No
026	USTS-National Guard Area (Part of OU 3)	No
027	Acid Neutralization Pit Soils (OU 5)	Yes
028	Open Storage Area Soils (OU 1)	Yes
029	Parker Pond – Expanded Site Investigation (ESI) 2	No
030	Fuel Storage Area (Part of OU 4)	No
031	National Guard Area Soils (OU 3)	Yes
032	Former Fire Training Area (FTA) Groundwater (OU 7)	Yes
033	PX Gas Station (CAP 1)	Yes
034	Area 50 Groundwater (OUs 6 and 9)	Yes
036	Acid Neutralization Pit Groundwater (OU 8)	Yes
037	Polycyclic Aromatic Hydrocarbon Area (OU 13)	Yes
038	Tank Farm (CAP 3)	No

Note: Numbers 001, 003, 005, 007, 016, and 035 were not used.

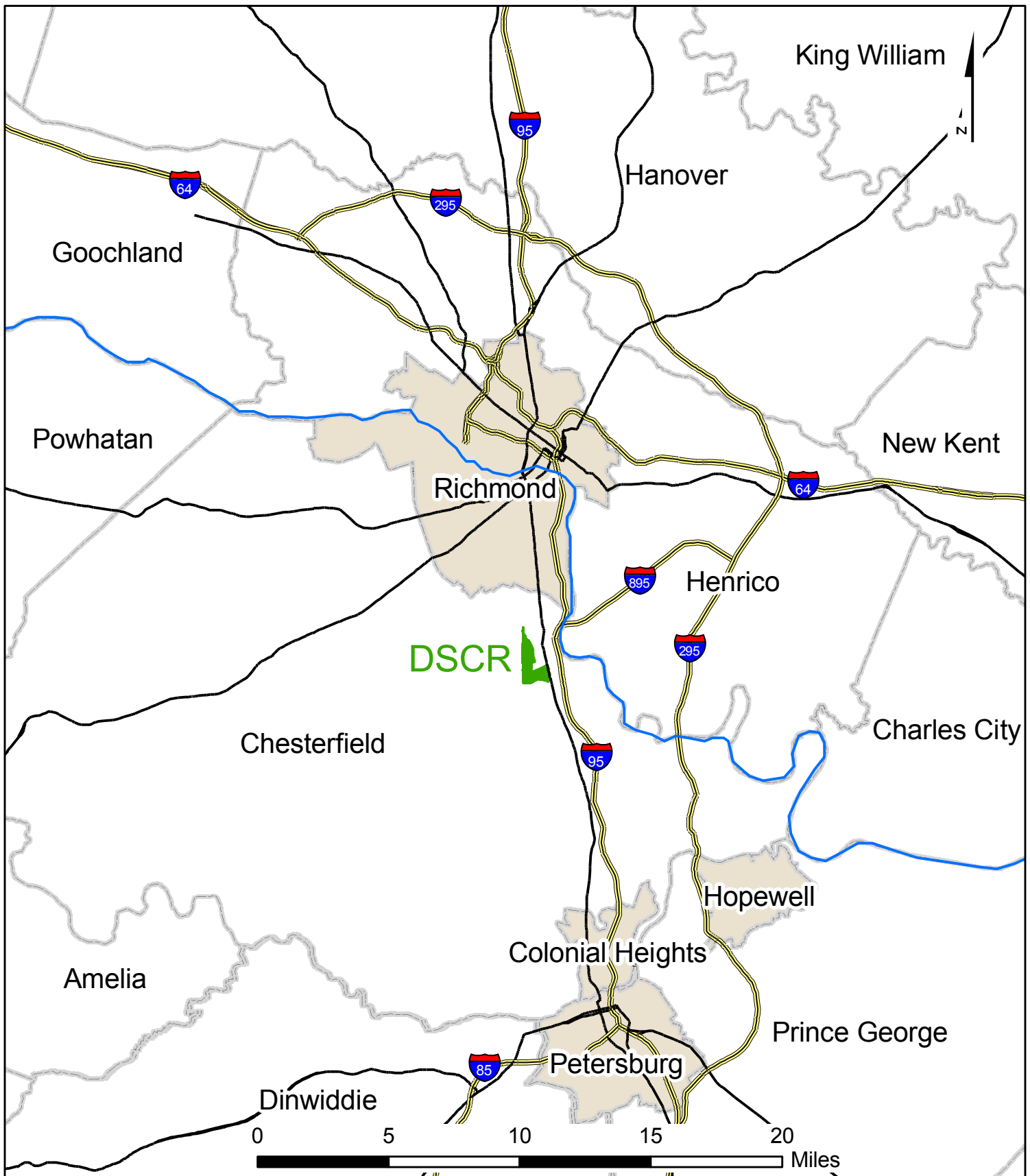
PROJECT TEAM



PROJECT TEAM

ROLES AND RESPONSIBILITIES

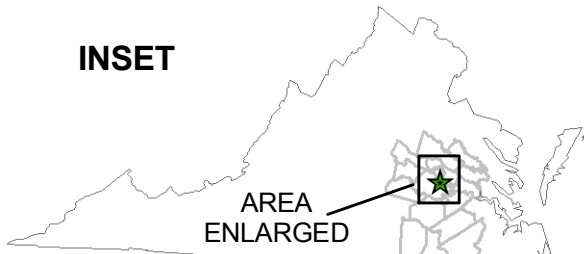
- **DLA** – Lead agency for remedial actions at DSCR; resource advocate; policy development; provides consultative support; decision validation and approval.
- **DSCR** – Directs DSCR's daily restoration program execution (ensure costs/performance/schedule are on target).
- **AFCEE/USACE** – Service centers – provide contracts for contractors.
- **Contracting Officer Representative (COR)** – Manages budget/schedule/quality of deliverables produced by contractors.
 - Provides timely funds obligation and contract execution and oversees costs/performance/schedule as the COR.
- **Mitretek** – DLA/DSCR's technical advisor; provides third-party technical oversight and input, and supports strategy development.
- **MACTEC** – Performs on-time, cost-effective consulting services for RI through RD and RA. Meets DLA/DSCR's completion strategy for technically defensible site restoration.
- **EarthTech** – Reviews RD for constructability, performs RA.
- **MicroPact** – Performs operations and maintenance on OU 9 and PX.
- **VDEQ** – Supporting agency for remedial actions at DSCR.
- **USEPA** – Supporting agency for remedial actions at DSCR.
- **TechLaw** – Technical contractor for USEPA.



Legend

- INTERSTATE
- MAJOR ROAD
- JAMES RIVER
- MUNICIPALITIES
- COUNTIES

INSET



DEFENSE SUPPLY CENTER RICHMOND
RICHMOND, VIRGINIA

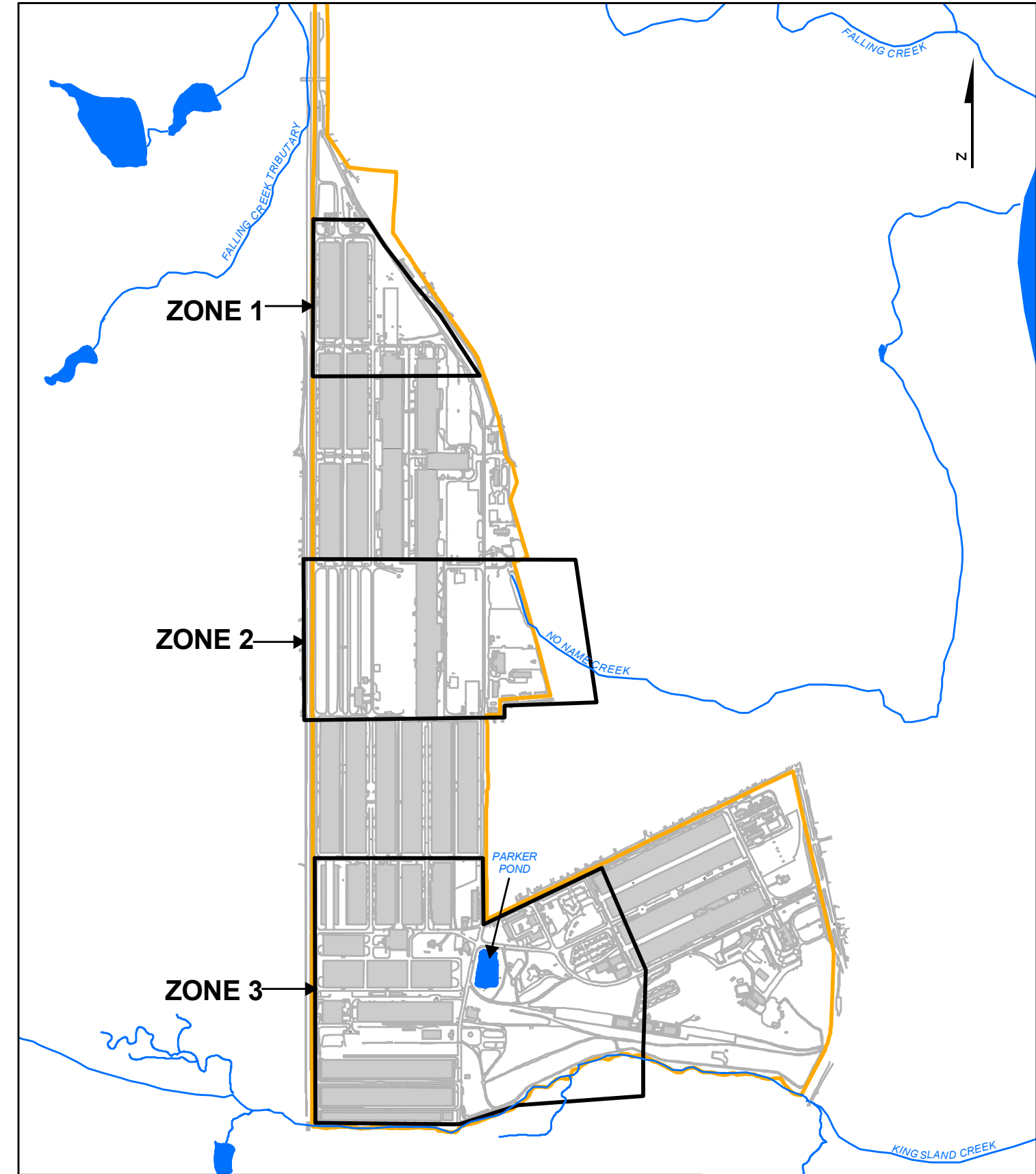
MANAGEMENT ACTION PLAN

REGIONAL LOCATION OF DSCR

PREPARED BY:
THP
CHECKED BY:
JLK
PROJECT NO:
6301-03-0011

MACTEC

FIGURE
NUMBER:
1



0 650 1,300 2,600 3,900 5,200 Feet

Legend

- BUILDING
- SURFACE WATER
- ZONES
- DSCR BOUNDARY

DEFENSE SUPPLY CENTER RICHMOND
RICHMOND, VIRGINIA

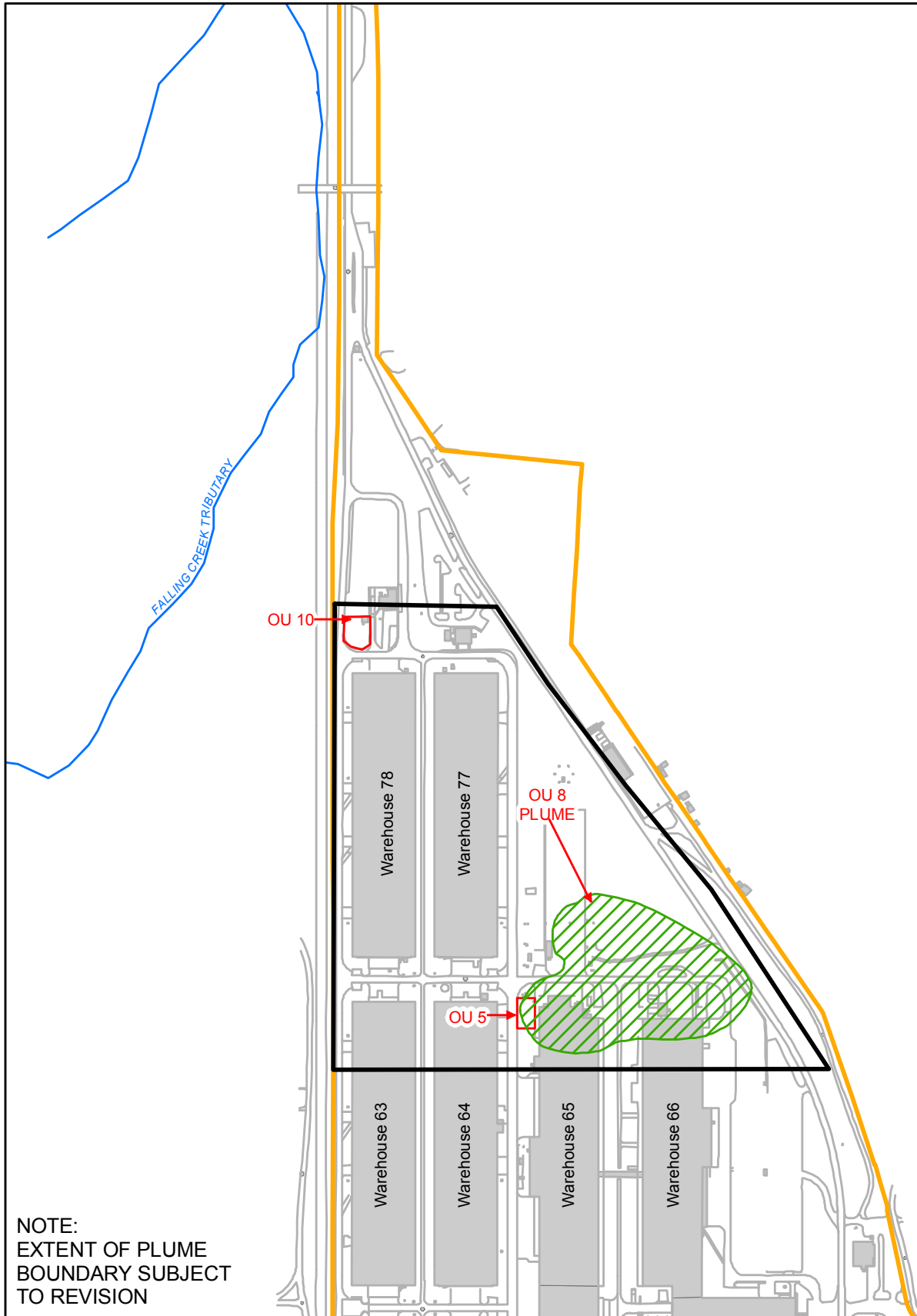
MANAGEMENT ACTION PLAN

ZONES AT DSCR

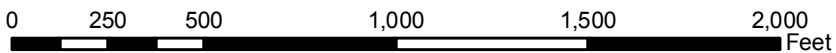
PREPARED BY:
THP
CHECKED BY:
DWK
PROJECT NO:
6301-03-0011

 **MACTEC**






FIGURE
NUMBER:
2



NOTE:
EXTENT OF PLUME
BOUNDARY SUBJECT
TO REVISION



Legend

- | | |
|---|---|
|  OPERABLE UNIT |  BUILDING |
|  ZONE 1 |  DSCR BOUNDARY |
|  APPROXIMATE EXTENT OF PLUME | |

DEFENSE SUPPLY CENTER RICHMOND
RICHMOND, VIRGINIA

MANAGEMENT ACTION PLAN

ZONE 1 OPERABLE UNITS

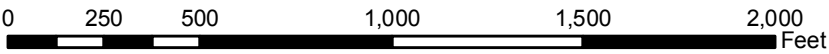
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CHECKED BY:
DWK
PROJECT NO:
6301-03-0011



FIGURE
NUMBER:
3



NOTE:
EXTENT OF PLUME
BOUNDARY SUBJECT
TO REVISION



Legend

- OPERABLE UNIT
- ZONE 2
- APPROXIMATE EXTENT OF PLUME
- BUILDING
- DSCR BOUNDARY

DEFENSE SUPPLY CENTER RICHMOND
RICHMOND, VIRGINIA

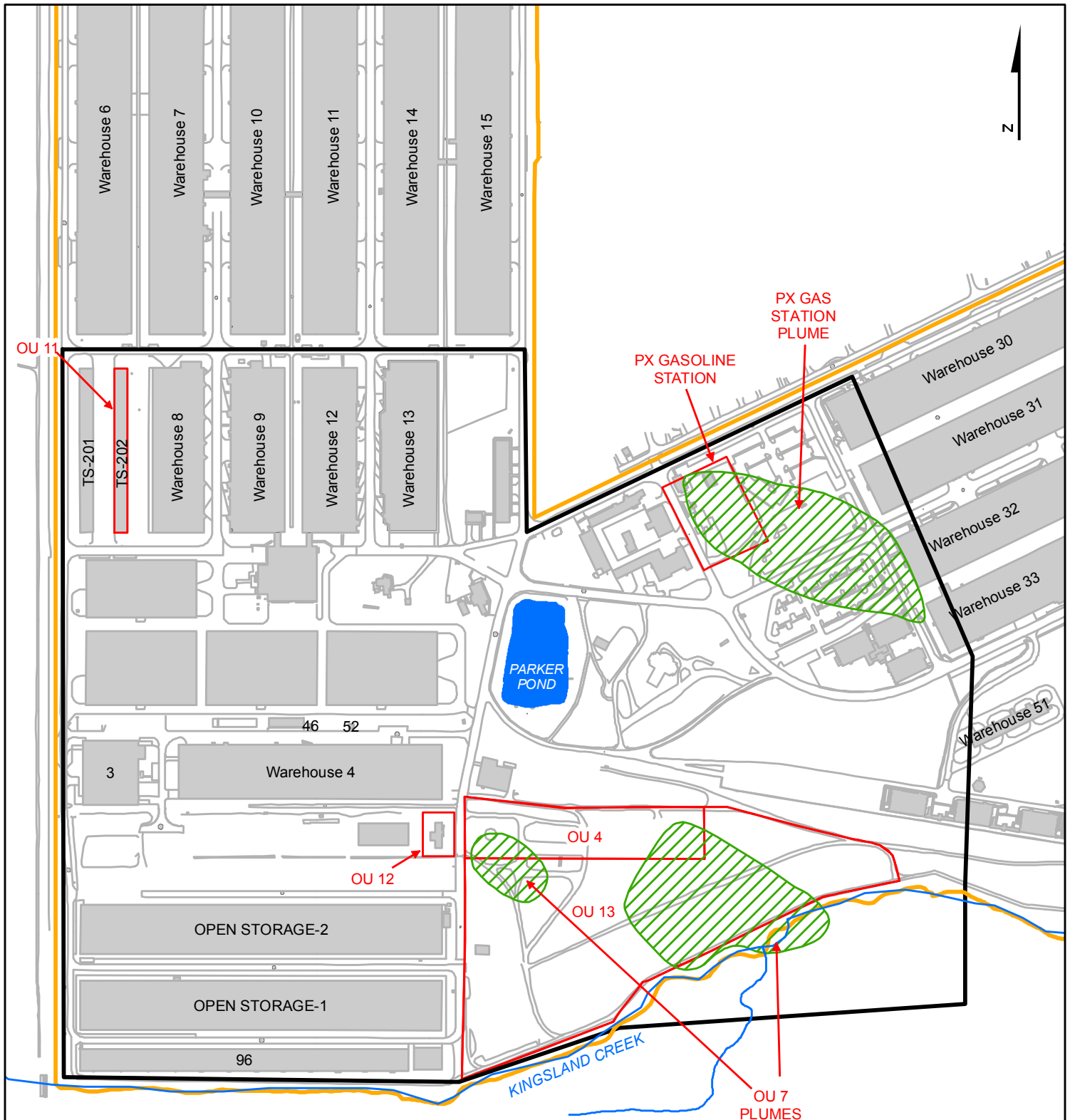
MANAGEMENT ACTION PLAN

**ZONE 2
OPERABLE UNITS**

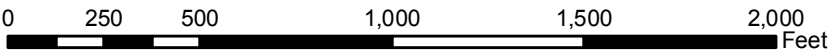
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PROJECT NO:
6301-03-0011



FIGURE
NUMBER:
4



NOTE:
EXTENT OF PLUME
BOUNDARY SUBJECT
TO REVISION



- Legend**
- OPERABLE UNIT
 - ZONE 3
 - APPROXIMATE EXTENT OF PLUME
 - BUILDING
 - DSCR BOUNDARY

DEFENSE SUPPLY CENTER RICHMOND
RICHMOND, VIRGINIA

MANAGEMENT ACTION PLAN

**ZONE 3
OPERABLE UNITS**

PREPARED BY:
THP
CHECKED BY:
DWK
PROJECT NO:
6301-03-0011

MACTEC

FIGURE
NUMBER:
5

INSTALLATION ASSESSMENT

Past industrial operations at the installation have resulted in the use, storage, management, inadvertent release, and/or disposal of hazardous materials, such as chlorinated solvents, petroleum products, and wastewater treatment sludge. Past storage operations at the installation have led to the accidental release of these and other hazardous materials, such as PAHs, pesticides, petroleum hydrocarbons, PCBs, and metals.

An initial assessment was completed in August 1981, and indicated potential soil impacts at six OUs and possible groundwater impacts at three OUs. During 1982, the U.S. Army Environmental Hygiene Agency (USAEHA) investigated the hydrogeologic setting, identified two areas of significant groundwater impacts associated with the Area 50 landfill and the former FTA, and installed monitoring wells in the vicinity of the most impacted areas. Elevated groundwater concentrations of CVOCs such as trichloroethylene (TCE), tetrachloroethene (PCE), and chlorobenzenes were detected and compared to VDEQ Groundwater Quality Standards. A third possible source of groundwater impacts was determined to be the National Guard Area (NGA). Subsequent investigations showed CVOC constituents in both the upper and lower water bearing units (WBUs) east of Area 50, extending to and beyond the eastern boundary of the installation.

Initial testing of residential water wells near the installation was performed between 1982 and 1984. In 1984, chloroform was detected, but the concentration was well below the USEPA limit for drinking water. Trace amounts of 1,1,1-trichloroethane (TCA) and 1,1-dichloroethane were also detected. Monitoring wells were installed off-installation to the east of NGA. Off-installation wells were analyzed, along with the associated NGA and Area 50 monitoring wells, during subsequent investigations of the hydrogeology and the extent of potential groundwater impacts between 1985 and 1987.

Based on the results of these investigations, the installation was officially placed on the NPL in 1987 with a Hazard Ranking System score of 33.85 due to CVOCs in on-site groundwater, potential off-site migration of CVOC-contaminated groundwater, and groundwater discharge into surface water. In 1990, USEPA, VDEQ, and DGSC (now DSCR) entered into an FFA to continue monitoring the installation and develop and implement remedial action plans. Thirteen OUs were ultimately defined for the IRP.

An RI was initiated in 1986 to characterize the nature and extent of CVOCs in soil at four OUs:

- Open Storage Area (OSA) – OU 1
- Area 50 Landfill – OU 2
- NGA – OU 3
- Former FTA – OU 4

The acid neutralization pits (ANPs – OU 5) were investigated as a possible CVOC source area.

The groundwater plumes associated with soil impacts were considered separately from the soil OUs:

- OSA/Area 50/NGA groundwater - OU 6
- Former FTA groundwater - OU 7
- ANP groundwater- OU 8

INSTALLATION ASSESSMENT (CONTINUED)

An installationwide pesticide monitoring study was completed in 1986 by USAEHA and identified three additional possible areas of concern:

- former Building 68 – OU 10
- former Building 202 – OU 11
- former Building 112 – OU 12

These areas were identified due to the various pesticide residues (i.e., DDT, chlordane, heptachlor, arsenic) discovered in the surface soils and storm drain sediments. In 1992, an area of PAH impacts was encountered near the FTA, which was associated with a past fuel oil release from an aboveground storage tank. This area was designated as OU 13. An IRA for OU 6, consisting of a groundwater extraction, CVOC treatment, and discharge system, began operating in 1996. This area was designated as OU 9.

Since 2000, DSCR has been integrating RIs and Focused Feasibility Studies (FFSs) for source and groundwater OUs. RI/FFSs have been conducted as part of a comprehensive, installationwide completion strategy recognizing the interdependence of soil and groundwater impacts. This strategy involves:

- Eliminating or reducing continuing sources of impacts through removal or treatment
- Controlling migration in the environment using natural and engineered controls
- Using institutional or engineered controls to limit the exposure of impacts that could pose an unacceptable human health or ecological risk

Response decisions made under this completion strategy are results-focused, with clearly defined performance expectations. DLA strives to effectively and efficiently meet its response action obligations under CERCLA. As a result, the OUs at the installation were divided into three geographic zones, as shown in Figure 2. Locations of OUs within each zone are shown in Figures 3 through 5.

ZONE 1 (Figure 3) includes OU 5 – ANP soils source area, OU 8 – ANP groundwater, and OU 10 – soils at former Building 68.

ZONE 2 (Figure 4) consists of OU 1 – OSA source area, OU 2 – Area 50 source area, OU 3 – NGA source area, OU 6 – OSA/Area 50/NGA groundwater, and OU 9 – IRA for OU 6.

ZONE 3 (Figure 5) includes OU 4 – FTA source area, OU 7 – FTA groundwater, OU 11 – TS soils, OU 12 – former Building 112 soils, OU 13 – PAH area soils, and the PX Gas Station.

All open DSERTS sites listed under the DSCR IRP are eligible for funding. Sites that pose the greatest risk to public health (based on the Relative Risk Site Evaluation [RRSE]) are generally given priority in funding allocations. The RRSE is a qualitative tool used to group sites into low, medium, and high risk categories based on site information and the contaminant hazard factor, the migration pathway factor, and the receptor factor. These sites are organized in the Site Descriptions section of the MAP by their DSERTS identification number but are primarily described by their OU number (1-13) or common name (PX Gas Station). RRSEs are not required at DSERTS sites classified as Remedy in Place (RIP) or RC.

PREVIOUS STUDIES

DATE	TITLE	AUTHOR
Aug 81	Installation Assessment Report	US Army Toxic and Hazardous Materials Agency
Mar 82	Geohydrologic Study No. 38-26-0164-82	US Army Environmental Hygiene Agency
04 Nov 82	Phase II, Geohydrologic Study No. 38-26-0164-83	US Army Environmental Hygiene Agency
19 Nov 83	Final Geohydrologic Study No. 38-26-0164-84	US Army Environmental Hygiene Agency
23 Jul 84	Phase I, Final Contamination Assessment Report, OU 2, OU 6	Dames & Moore
10 Sep 84	Groundwater Contamination Progress Report	US Geological Survey
Dec 84	On Post Quarterly Well Testing, Mar 94-Dec 94, OU 2, OU 6	US Geological Survey
07 Jan 85	Groundwater Contamination Progress Report, Oct 84-Dec 84, OU 6	US Geological Survey
16 Apr 85	Groundwater Contamination Progress Report, Jan 85-Mar 85, OU 6	US Geological Survey
10 Jun 85	Groundwater Contamination Progress Report, Apr 85-Jun 85, OU 6	US Geological Survey
31 Oct 85	Groundwater Contamination Progress Report, Jul 85-Sep 85, OU 6	US Geological Survey
15 Nov 85	Phase II, Final Contamination Assessment Report	Dames & Moore
Sep 86	Pesticide Monitoring Study, Evaluation of Pesticide Residue Associated with Pest Control Operations	US Army Environmental Hygiene Agency
Jan 87	Phase II, Groundwater Contamination Administrative Report	US Geological Survey
Oct 87	Soil Gas Survey Report, OU 5	Target Environmental Services
Oct 88	Phase II, Soil Gas Survey Report, OU 3	Target Environmental Services
27 Apr 89	RI, Draft Report, OU 5, OU 8	Dames & Moore
31 May 89	RI, Report, OU 4, OU 7	Dames & Moore
Nov 89	Soil Gas Survey Report, OU 1	Target Environmental Services
30 Nov 90	FFA, Investigation and Response of Past and Present Environmental Impacts	Defense Logistics Agency, Virginia Department of Waste Management, DGSC-WI, EPA Region 3
02 Jul 91	Technical Memorandum Report, Interim Groundwater Sampling Results, United States Geological Survey Off-Post Wells, Rayon Park	CH2M Hill
Sep 91	Proposed Preliminary ARAR Report, OU 4	LAW Environmental, Inc.



GENERAL



ZONE 1



ZONE 2



ZONE 3

PREVIOUS STUDIES

DATE	TITLE	AUTHOR
Oct 91	FFS, Final Report, OU 1	LAW Environmental, Inc.
Oct 91	FFS, Final Report, OU 5	LAW Environmental, Inc.
Jan 92	Final Proposed Plan, OU 5	LAW Environmental, Inc.
Jan 92	Final Proposed Plan, OU 1	LAW Environmental, Inc.
Mar 92	ROD, OU 5	LAW Environmental, Inc.
Apr 92	ROD, Final, OU 1	LAW Environmental, Inc.
Dec 92	RD, Pilot Study for Vacuum Extraction System Work Plan, OU 5	Engineering-Science, Inc.
Apr 93	FFS, Draft Report, OU 6	LAW Environmental, Inc.
01 Apr 93	RD, 100% Design Submittal Report, OU 5	Engineering-Science, Inc.
29 Sep 93	ROD, IRA, OU 9	LAW Environmental, Inc.
Feb 94	RI, Final Field Investigation Report, OU 7	Engineering-Science, Inc.
Jun 94	Expanded SI, Final Report, OU 12	LAW Environmental, Inc.
Jun 94	Expanded SI, Final Report, OU 11	LAW Environmental, Inc.
Jun 94	Expanded SI, Final Report, OU 10	LAW Environmental, Inc.
Jun 94	Expanded SI, Final Report, OU 4	LAW Environmental, Inc.
Jun 94	RI, Final Report Addendum, OU 6	LAW Environmental, Inc.
Feb 95	FFS, Final Report, OU 3	LAW Environmental, Inc.
May 95	Final Exploratory Trenching Characterization Report, OU 2	LAW Environmental, Inc.
Jul 95	Final Proposed Plan, OU 3	LAW Environmental, Inc.
Sep 95	Explanation of Significant Differences Report, OU 5	US Army Corps of Engineers - Huntsville Division
Sep 95	Explanation of Significant Differences Report, OU 9	LAW Environmental, Inc.
Oct 95	Quarterly Groundwater Sampling Report, Aug 95, PX Station	Parsons Engineering Science Inc.
Oct 95	ROD, Final, OU 3	LAW Environmental, Inc.
Nov 95	RI, Report, Addendum, OU 5	LAW Environmental, Inc.



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PREVIOUS STUDIES

DATE	TITLE	AUTHOR
Jan 96	RI, Final Report Addendum, OU 4, OU 7	LAW Environmental, Inc.
Jan 96	Quarterly Groundwater Sampling Report, Dec 95, PX Station	Parsons Engineering Science Inc.
Jan 96	Final Pilot Test Report, PX Station	LAW Engineering and Environmental Services, Inc.
Feb 96	Final Pilot Test Report, OU 5	LAW Environmental, Inc.
Apr 96	FFS, Final Report, OU 7	LAW Engineering and Environmental Services, Inc.
Apr 96	Quarterly Groundwater Sampling Report, Feb 96, PX Station	Parsons Engineering Science Inc.
Oct 96	Quarterly Groundwater Sampling Report, Intrinsic Remediation, Oct 96, PX Station	Parsons Engineering Science Inc.
Dec 96	RI, Final Supplemental Report, OU 4, OU 7	LAW Engineering and Environmental Services, Inc.
Jan 97	Final Pilot Test Report, OU 4, OU 7	LAW Engineering and Environmental Services, Inc.
Jan 97	Quarterly Groundwater Sampling Report, Intrinsic Remediation, Jan 97, PX Station	Parsons Engineering Science Inc.
17 Jan 97	Revised Final Corrective Action Plan, PX Station	Parsons Engineering Science Inc.
Apr 97	Quarterly Groundwater Sampling Report, Intrinsic Remediation, Apr 97, PX Station	Parsons Engineering Science Inc.
May 97	Revised Final Background Characterization Report	LAW Engineering and Environmental Services, Inc.
Jul 97	RI, Final Report, OU 11	LAW Engineering and Environmental Services, Inc.
01 Jul 97	RA, Summary Report, OU 3	Omega Environmental Services
Jul 97	Quarterly Groundwater Sampling Report, Jul 97, PX Station	Parsons Engineering Science Inc.
Aug 97	FFS, Final Report, OU 4	LAW Engineering and Environmental Services, Inc.
Aug 97	RA, Final Five-Year Review Report, OU 1	LAW Engineering and Environmental Services, Inc.
Oct 97	Quarterly Groundwater Sampling Report, Oct 97, PX Station	Parsons Engineering Science Inc.
Jan 98	RI, Final Report, OU 10	LAW Engineering and Environmental Services, Inc.
Jul 98	FFS, Final Report, OU 8	LAW Engineering and Environmental Services, Inc.
Feb 98	Quarterly Groundwater Sampling Report, Feb 98, PX Station	Parsons Engineering Science Inc.
Aug 98	Quarterly Groundwater Sampling Report, Aug 98, PX Station	Parsons Engineering Science Inc.
Sep 98	IRA, Final Action Memorandum Decision Document, OU 2	LAW Engineering and Environmental Services, Inc.



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PREVIOUS STUDIES

DATE	TITLE	AUTHOR
Oct 98	Report of Video Inspections of Storm Sewers, OU 2, OU 12	LAW Engineering and Environmental Services, Inc.
Nov 98	Final Treatability Study Report, OU 8	LAW Engineering and Environmental Services, Inc.
Feb 99	Final Proposed Plan, OU 4	LAW Engineering and Environmental Services, Inc.
Feb 99	Final Corrective Action Plan Annual Report, Intrinsic Remediation, PX Station	Parsons Engineering Science Inc.
Feb 99	Biannual Groundwater Sampling Report, Feb 99, PX Station	Parsons Engineering Science Inc.
May 99	FFS, Third Revised Final Report, OU 2	LAW Engineering and Environmental Services, Inc.
Jun 99	ROD, Final, OU 4	LAW Engineering and Environmental Services, Inc.
Jun 99	Final Groundwater Model Update Report, Bioplume II, PX Station	Parsons Engineering Science Inc.
Jul 99	RI, Revised Final Report, OU 13	LAW Engineering and Environmental Services, Inc.
01 Jul 99	Density Driven Convection Pilot Test Report, OU 7	Wasatch Environmental, Inc.
08 Sep 99	FS, Letter Report Addendum, OU 7	LAW Engineering and Environmental Services, Inc.
Oct 99	Final Proposed Plan, OU 2	LAW Engineering and Environmental Services, Inc.
Jan 00	Revised Final Treatability Study Report, OU 8	LAW Engineering and Environmental Services, Inc.
Jan 00	FS, Final Report, OU 11	LAW Engineering and Environmental Services, Inc.
Mar 00	FS, Final Report, OU 10	LAW Engineering and Environmental Services, Inc.
Jun 00	FFS, Revised Final Report, OU 12	LAW Engineering and Environmental Services, Inc.
Jun 00	RI, Second Revised Final Report, OU 12	LAW Engineering and Environmental Services, Inc.
Jun 00	Final Natural Attenuation Studies Report, OU 6	LAW Engineering and Environmental Services, Inc.
Dec 00	Final Pilot Test Report, OU 6	LAW Engineering and Environmental Services, Inc.
08 Nov 01	After Action Plan, Groundwater Pump and Treat System, OU 9	Horne Engineering Services, Inc.
Dec 01	Final Groundwater Summary Report, OU 11	LAW Engineering and Environmental Services, Inc.
Dec 01	Technical Memorandum Report, Quarterly Groundwater Sampling, Oct 01, OU 8	LAW Engineering and Environmental Services, Inc.
Jan 02	Technical Memorandum Report, First Quarterly Groundwater Sampling, Oct 01, PX Station	LAW Engineering and Environmental Services, Inc.
Jan 02	Data Summary Report, No Name Creek, Kingsland Creek	LAW Engineering and Environmental Services, Inc.



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PREVIOUS STUDIES

DATE	TITLE	AUTHOR
07 Jan 02	Basewide Environmental Baseline Survey (EBS) Report	Rasco, Inc.
Feb 02	Final Quarterly Groundwater Sampling Plan, OU 6, OU 8, PX Station	LAW Engineering and Environmental Services, Inc.
Feb 02	Technical Memorandum Report, First Quarterly Groundwater Sampling, Sep 01-Oct 01, OU 6	LAW Engineering and Environmental Services, Inc.
Apr 02	Final Updated Residential Well Survey Report	LAW Engineering and Environmental Services, Inc.
Apr 02	Final Groundwater Summary Report, OU 10	LAW Engineering and Environmental Services, Inc.
Dec 02	Technical Memorandum Report, Quarterly Groundwater Sampling, Mar 02-Apr 02, OU 6	MACTEC Engineering and Consulting, Inc. (f/k/a LAW Engineering and Environmental Services, Inc.)
Dec 02	Technical Memorandum Report, Creek Monitoring, Nov 01, Kingsland Creek, No Name Creek, Falling Creek Tributary	MACTEC Engineering and Consulting, Inc.
05 Dec 02	Technical Memorandum Report, Quarterly Groundwater Sampling, Mar 02-Apr 02, OU 8	MACTEC Engineering and Consulting, Inc.
Jan 03	Technical Memorandum Report, Quarterly Groundwater Sampling, Mar 02-Apr 02, OU 7	MACTEC Engineering and Consulting, Inc.
Jan 03	Summary of Findings Report, OU 6	MACTEC Engineering and Consulting, Inc.
Feb 03	Summary of Findings Report, OU 7	MACTEC Engineering and Consulting, Inc.
Mar 03	Technical Memorandum Report, Quarterly Groundwater Sampling, Jul 02, OU 6	MACTEC Engineering and Consulting, Inc.
Apr 03	Technical Memorandum Report, Quarterly Groundwater Sampling, Jul 02, OU 7	MACTEC Engineering and Consulting, Inc.
Apr 03	Technical Memorandum Report, Quarterly Groundwater Sampling, Jul 02, OU 8	MACTEC Engineering and Consulting, Inc.
Apr 03	Technical Memorandum Report, Quarterly Groundwater Sampling, Jul-Aug 02, PX Station	MACTEC Engineering and Consulting, Inc.
Jul 03	Technical Memorandum Report, Creek Monitoring, Nov 02, Kingsland Creek, No Name Creek, Falling Creek Tributary	MACTEC Engineering and Consulting, Inc.
Jul 03	Final Consolidated Five-Year Review Report, OU 1, OU 3, OU 9	MACTEC Engineering and Consulting, Inc.



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PREVIOUS STUDIES

DATE	TITLE	AUTHOR
Aug 03	Annual Groundwater Report, Oct 02, OU 7	MACTEC Engineering and Consulting, Inc.
Nov 03	Environmental Investigation Report, Proposed Sanitary, Sewer Installation Rayon Park	EEE Consulting, Inc.
Jan 04	Annual Groundwater Sampling Report, Oct 01-Oct 02, OU 8	MACTEC Engineering and Consulting, Inc.
Jan 04	Supplemental FS, Final Work Plan	MACTEC Engineering and Consulting, Inc.
Jan 04	Annual Groundwater Sampling Report, Oct 01-Oct 02, PX Station	MACTEC Engineering and Consulting, Inc.
Feb 04	Quarterly Groundwater Sampling Report, 03, OU 8	MACTEC Engineering and Consulting, Inc.
Feb 04	Quarterly Groundwater Sampling Report, 03, PX Station	MACTEC Engineering and Consulting, Inc.
Mar 04	Quarterly Groundwater Sampling Report, 03, OU 6	MACTEC Engineering and Consulting, Inc.
Mar 04	Quarterly Groundwater Sampling Report, 03, OU 7	MACTEC Engineering and Consulting, Inc.
15 April 04	Revised Final Letter Work Plan, Potential Source Material Investigation, Former Fire Training Pit Area, OU 4	MACTEC Engineering and Consulting, Inc.
Sep 04	Final Action Memorandum Report, Principal Threat Source Material Removal, OU 4	MACTEC Engineering and Consulting, Inc.
Mar 05	Third Revised Final Focused Feasibility Study Report, OU 12	MACTEC Engineering and Consulting, Inc.
Mar 05	Proposed Plan, OU 12	MACTEC Engineering and Consulting, Inc.



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ER ELIGIBLE DSERTS SITES

DSCR – DSERTS SITE 002

TRANSITORY SHELTER 202: OU 11

SITE DESCRIPTION

Former Building 202, referred to as a Transitory Shelter (TS), was an open-front storage shed located along the western installation boundary (Figure 5). Formerly, the northern end of the shelter was used to store approximately 800 drums of DDT. In 1981, seepage from the drums was discovered. Soil from the floor was removed and backfilled with clean soil. The area was paved over, and a containment berm was constructed along the floor to contain future potential leakage. The drums were subsequently removed for off-site disposal in the early 1980's.

In 1986, soil samples were collected as part of a pesticide monitoring study. Analytical results indicated that the soil contained residues of DDT and its primary metabolites (dichlorodiphenyldichloroethane [DDD] and dichlorodiphenyldichloroethylene [DDE]). In 1992, an ESI revealed toluene, SVOCs, metals, and pesticides in surface soil and sub-floor samples. As a result, the soil impacts were designated as OU 11.

Additional soil and storm drain sediment samples were collected in 1995. Soils were found to contain seven metals, DDT and its metabolites, and PCB-1254 above the USEPA Region 3 risk-based concentrations (RBCs) for residential exposure. Maximum concentrations were found in surface samples. Lead, DDD, and DDT concentrations exceeded residential soil RBCs in sediment samples, but there was not a complete receptor exposure pathway for impacted storm drain sediments. Groundwater collected in 2000 contained two metals and two volatile organic compounds (VOCs) at concentrations above the USEPA Region 3 tap water RBCs but below VDEQ groundwater quality standards. However, downgradient results were below upgradient groundwater concentrations.

An RI was submitted in 1997 and an FS in 2000. The risk for current and future occupational exposure (for on-site and construction workers) was within USEPA's acceptable range. LUCs were recommended to allow only industrial reuse. The containment berm and asphalt pavement remained after demolition of the shed in October 2004.

PATH FORWARD

Currently the human health risk assessment is being revised using industrial worker exposure scenarios and updated risk assessment guidance. A revised FS, based on the results of the revised risk assessment, is currently in progress for OU 11. The final remedy for OU 11 has not been selected; however, based on existing OU-specific data, a remedial alternative, including LUCs and a low-permeability cover system, as well as other regulatory acceptable alternatives, may be considered. The ROD and RD are projected in 2006. RA is projected in 2007, and RC is projected in 2012. LTM will continue after RC.

IRP STATUS

RRSE Rating:	Low Risk
Constituents:	Metals, SVOCs, pesticides
Affected Media:	Soil, Storm Sewer Sediment
Completed IRP Phases:	Preliminary Assessment (PA), Site Investigation (SI)
Current IRP Phase:	RI/FS
Future Phases:	RD, Remedial Action – Construction (RA-C), RC, LTM



DSCR – DSERTS SITE 006 BUILDING 68: OU 10

SITE DESCRIPTION

OU 10 is the former site of Building 68, a small (30-foot x 30-foot) brick building surrounded by an asphalt and gravel lot. OU 10 is located in Zone 1 in the northern part of the installation (Figure 3). From 1954 to 1972, the area served as a pesticide storage and operations facility. Additionally, in 1972 the surrounding gravel lot was used to store electrical transformers. A spill of transformer oil containing PCBs occurred during 1980. Affected soil was excavated and removed from the site. The lot surrounding the former building is currently used for vehicle parking. Storm drains in the area discharge into the Falling Creek Tributary, just west of the installation.

Soil and storm drain sediment samples were collected during a pesticide monitoring study in 1986. A human health risk assessment was performed using a residential exposure scenario. Dieldrin was detected in surface soils above the USEPA Region 3 RBC for residential exposure and above background concentrations. No evidence of pesticide migration to groundwater was found.

An ESI was performed in 1992, which included collecting surface and subsurface soil samples. Toluene, 16 SVOCs, 6 pesticides, and 20 metals were detected. Arsenic, benzo(a)pyrene, and manganese concentrations resulted in unacceptable human health risk under residential exposures, and the soil impacts were designated OU 10.

An RI report was submitted in 1998. Groundwater, subsurface soil, and storm sewer sediment samples were collected during 1995. Metals, 7 PAHs, and 3 pesticides were detected; however, the risk associated with on-site occupational exposures (non-intrusive and construction workers) was within the acceptable range.

An FS evaluating a no-action alternative with institutional controls was prepared in 1999.

PATH FORWARD

The human health risk assessment will be revised using industrial worker exposure scenarios and updated risk assessment guidance. The human health

risk assessment will be revised using industrial worker exposure scenarios and updated risk assessment guidance. Upon completion of the risk assessment an FS addendum for OU 10 will be prepared. The final remedy for OU 10 has not been selected; however, based on existing OU-specific data, a remedial alternative including a low permeability cover and LUCs as well as other regulatory acceptable remedial alternatives may be considered. The ROD is projected to be signed in 2006, followed by RD and RA in 2007. RC is expected in 2013, with LTM expected to continue after RC. The ROD is projected to be signed in 2006, followed by RD and RA in 2007. RC is expected in 2013, with LTM expected to continue after RC.

IRP STATUS

RRSE Rating:	Low Risk
Constituents:	Arsenic, dieldrin, PAHs
Affected Media:	Soil
Completed IRP Phases:	PA, SI
Current IRP Phase:	RI/FS
Future Phases:	RD, RA-C, RC, LTM



DSCR – DSERTS SITE 009 AREA 50 LANDFILL: OU 2

SITE DESCRIPTION

The Area 50 Landfill (OU 2) is a 13-acre former natural ravine in the central part of the installation (Figure 4). The landfill was used as a disposal area for a variety of bulk liquid chemicals, construction debris, and scrap metal from the mid-1960s until the early 1970s. By 1975, the area had been filled, graded to street level, and seeded with grass.

The initial Installation Assessment in 1981 identified Area 50 as a potential source of impacts, and it contributed to the installation being listed on the NPL. Soil samples collected in 1984 showed SVOCs, CVOCs, pesticides, total petroleum hydrocarbons, phenols, PCBs, and various metals at concentrations higher than background levels. The area was designated as OU 2. The associated groundwater is considered separately as OU 6.

An initial RI was completed in 1989 and an amended risk assessment was submitted in 1994. Three “hot spots” containing PAHs, VOCs, SVOCs, and metals were confirmed by soil sampling. Wastes disposed of in the landfill extend into the saturated zone, and VOCs were found to an approximate depth of 30 feet.

Geophysical anomalies discovered during the RI were investigated in 1995 by exploratory trenching. Three crushed 55-gallon drums were found, along with numerous small plastic bottles and pails. A large amount of construction debris was encountered. Steel reinforcing bar (rebar), scrap metal, and artillery shell casings were determined to be the cause of the anomalies. Petroleum hydrocarbon stained soils and free-phase fuel oil were also encountered in the shallow trenches.

An FS was completed in 1999. Recommendations included placement of a low-permeability clay cover, storm sewer rehabilitation, removal of free product and free-product saturated soils, LUCs, and LTM of the groundwater.

PATH FORWARD

A revised FS is ongoing to reflect the updated human health risk assessment with industrial worker scenarios and updated risk assessment guidance, and to identify the remedial strategies for OU 2. The final remedy has not been selected for OU 2; however, based on

OU-specific data, a remedial alternative including LUCs as well as other regulatory acceptable remedial alternatives may be considered. The ROD is expected in 2006, with RD in 2007 and RA in 2008. RC is expected in 2014, with LTM expected to continue after RC.

IRP STATUS

RRSE Rating:	High Risk (potential source to groundwater impacts)
Constituents:	TCE, PCE, petroleum hydrocarbons, PAHs, metals
Affected Media:	Soil, Disposed Waste Material
Completed IRP Phases:	PA, SI
Current IRP Phase:	RI/FS
Future Phases:	RD, RA-C, RC, LTM



DSCR – DSERTS SITE 014 BUILDING 112: OU 12

SITE DESCRIPTION

OU 12 consists of the vadose-zone soils associated with former Building 112, a pesticide storage and mixing facility in the southwest portion of the installation (Figure 5). Pesticide equipment was also filled and cleaned after use on a covered concrete pad on the south side of the building. A barbed-wire-topped chain-link fence surrounds the former building site and adjoining gravel lot. Building 112 was demolished in July 2004.

The initial investigation of surface soils occurred in 1986 during the installationwide pesticide monitoring study. Chlordane and DDT were detected in each composite sample.

An ESI was performed in 1992 that included the collection of surface soil and groundwater samples. Chlordane was detected in soil samples, but it was not detected in groundwater.

An RI consisting of groundwater, soil, and storm sewer sediment sampling was completed in 1998. Surface soils contained arsenic, DDT, chlordane, and heptachlor above background and above the USEPA Region 3 RBC for residential exposure. Arsenic was also detected in subsurface soil. Groundwater results indicated that there was negligible migration from soils. Chlordane was detected in storm sewer sediment samples downgradient of Building 112 as a result of overland runoff.

Based on risk assessment results for residential receptors, an FS was completed in 1999. The risk assessment and the FS were updated in January 2005 to reflect the planned industrial reuse of the site.

PATH FORWARD

The Proposed Plan has been completed. A low-permeability cover system and LUCs comprise the preferred alternative.

The ROD and RD are scheduled for 2005, followed by RA in 2006. RC is expected in 2011, with LTM to continue after RC.

IRP STATUS

RRSE Rating:	Low Risk
Constituents:	Arsenic
Affected Media:	Soil, Storm Sewer Sediment
Completed IRP Phases:	PA, SI
Current IRP Phase:	RI/FS
Future Phases:	RD, RA-C, RC, LTM



DSCR – DSERTS SITE 017 FORMER FIRE TRAINING AREA SOILS: OU 4

SITE DESCRIPTION

The former FTA (OU 4) is located in the southern portion of the installation (Figure 5). Three shallow, unlined pits were used for the disposal of various waste chemicals (petroleum and lubricating oils, VOCs, herbicides, and pesticides) by burning, providing an opportunity for fire-fighting training exercises. The area is currently used for equipment/vehicle parking and open construction material storage.

During the initial investigation in 1981, constituents found in FTA soils matched those found in groundwater. The soils, considered as the source of the groundwater impacts, were designated as OU 4. The groundwater was separately designated as OU 7. Shallow soil and groundwater impacts were confirmed by additional sampling in 1985 and 1986.

An RI was completed in 1989, and the constituents identified included CVOCs (PCE, TCE, and TCA); petroleum products (xylenes and PAHs), SVOCs (phenol and bis[2-ethylhexyl]phthalate); and pesticides (DDT, DDD, DDE, and chlordane). The supplemental RI in 1996 and the FS in 1997 assessed the nature and extent of constituents in overland runoff pathways. The FTA was found to have no significant impact on Kingsland Creek via the overland run-off pathway. The human health risk assessment indicated that there was no significant health risk from exposure (dermal contact and incidental ingestion) to vadose-zone soils for on-site workers, recreational users, and future residents.

The OU 4 ROD, signed in 1999, specified no further action as the final remedy for the FTA soils, deferring determination of a groundwater threat from constituents in OU 4 soils to investigations associated with OU 7. Recent CVOC data from groundwater at OU 7 suggests the presence of dense nonaqueous phase liquid. Because OU 4 is the source for groundwater impacts at OU 7, a time critical soil removal action was completed in December 2004 to remove the principal threat source material.

PATH FORWARD

The human health risk assessment will be revised using industrial worker scenarios and updated risk

assessment guidance, and will assess the vapor migration pathway. A ROD amendment may be completed in 2006 to revise the final remedy for OU 4 to LUCs. LTM is expected to continue to ensure LUCs remain effective.

IRP STATUS

RRSE Rating:	Not Evaluated (Remedy in Place**)
Constituents:	PCE, TCE, 1,1,1-TCA, xylenes, PAHs, phenol, DDT, DDD, DDE, chlordane, and bis(2-ethylhexyl)phthalate
Affected Media:	Soil
Completed IRP Phases:	PA, SI, RI/ FS
Current IRP Phase:	RD
Future Phases:	RA-C, RC, LTM

** Based on current BRA. Revised BRA will likely require LUCs and LTM



DSCR – DSERTS SITE 027 ACID NEUTRALIZATION PIT SOILS: OU 5

SITE DESCRIPTION

The ANPs (OU 5) are two former concrete settling tanks located near the northern end of Warehouse 65 (Figure 3). The pits were used as settling basins and for neutralization of acidic wastewater from metal cleaning and painting operations. The larger primary pit was built in 1958. Treated water flowed directly to the storm sewer until the secondary tank was constructed in the 1970s. The smaller secondary tank received treated water from the primary tank and discharged to the sanitary sewer. Sludge collected from the tanks was periodically disposed of off-site.

The tanks were decommissioned in 1985 and filled with clean sand. The sides and bottoms of the tanks were observed to be cracked and broken, indicating a possible migration pathway for constituents to affect soils.

An RI was completed in 1990. Possible unauthorized dumping of solvents was suspected due to low concentrations of TCE, PCE, 1,2-dichloroethene, and SVOCs in the soil. The soil near the ANPs was assumed to be the source area and was designated as OU 5, while the groundwater was considered separately as OU 8.

An FS was completed in 1991. The ROD was signed in 1992 and identified an SVE system to reduce remaining CVOC concentrations to below the soil remediation objective. A pilot test was performed in December 1992, and subsequent soil confirmation sampling indicated that CVOCs were below soil remediation objectives. An ESD signed in 1995 indicated a full-scale SVE system at OU 5 was not necessary, and no further action was required. LUCs were implemented to limit future land use in the ANP area. The former pits were subsequently covered with concrete to prevent reuse. LTM is being conducted for the groundwater as part of OU 8.

PATH FORWARD

No further action is required for the ANP soils. A preliminary closeout report is scheduled for 2005, and subsequent partial deletion from the NPL and closure (SC) is expected in 2007.

IRP STATUS

RRSE Rating:	Not Evaluated (Remedy in Place)
Constituents:	TCE, PCE, and degradation products
Affected Media:	Soil
Completed IRP Phases:	PA, SI, RI/FS, RD, RA-C, RC
Current IRP Phase:	LTM
Future Phase:	SC



DSCR – DSERTS SITE 028 OPEN STORAGE AREA: OU 1

SITE DESCRIPTION

The OSA (OU 1) is a 45-acre site in the central portion of the installation (Figure 4). The OSA was formerly used to store bulk, drummed chemicals; recover liquids from leaking drums (recoupment); and repair and replace damaged containers. Currently, the area is used to store empty compressed gas cylinders and vessels, electrical transformers, fire extinguishers, and other miscellaneous items. The soils in the vicinity of the recoupment area are stained from past spills, as are soils in other locations around OU 1. Three known spills of the pesticide Malathion occurred between 1977 and 1980. Groundwater beneath and downgradient from OU 1 is treated separately as OU 6.

The RI was submitted in 1990 and the FS in 1991. The constituents of concern were determined to be PAHs, VOCs, pesticides, and metals in soil. The human health risk assessment determined acceptable risk to on-site industrial workers, contingent upon continued industrial land use.

An interim ROD addressing the OSA soils was signed in 1992. The recommended final response action was LUCs, including access restrictions to mitigate risk and assessments prior to activities disturbing soil deeper than 6 inches. Five-year reviews in 1997 and 2003 recommended continued enforcement of LUCs and determined the interim remedy to be protective of direct exposure to OU 1 soils. In 2004, soil vapor samples were collected as part of the supplemental FS at OU 6 to evaluate the protectiveness of the interim remedy at OU 1 via the vapor intrusion pathway. No CVOCs were detected in the analyses.

PATH FORWARD

The human health risk assessment will be revised for industrial worker exposure scenarios and updated risk assessment guidance, and vapor intrusion. The ROD is expected to be finalized in 2006, at which point RC will be obtained. Five-year reviews of the ROD will continue and will include a protectiveness determination of the LUCs for direct exposure to soil and vapor intrusion into the buildings.

IRP STATUS

RRSE Rating:	Not Evaluated (Remedy in Place)
Constituents:	PAHs, VOCs, pesticides, metals
Affected Media:	Soil
Completed IRP Phases:	PA, SI, RI/FS
Current IRP Phase:	LTM
Future Phase:	RC



DSCR – DSERTS SITE 031 NATIONAL GUARD AREA SOILS: OU 3

SITE DESCRIPTION

The NGA (OU 3) is a 15-acre site in the east-central portion of the installation (Figure 4). Since the 1950s, the Virginia Army National Guard has leased the parcel from DSCR. The area is mostly covered with concrete, asphalt, and gravel. Past activities included a former solvent degreasing area, several underground and aboveground storage tanks, and a wastewater treatment sludge disposal area. The NGA is currently used for vehicle maintenance and storage.

During the Installation Assessment performed in 1981, low-level soil impacts (VOCs, SVOCs, petroleum hydrocarbons, and metals) were detected. This area was subsequently designated as OU 3.

An RI was completed in 1994 and confirmed the presence of VOCs, SVOCs, and metals in soil.

An FS was completed in 1995. An ecological risk assessment indicated that there was negligible impact to No Name Creek biota from NGA soils.

The ROD for OU 3 (signed in 1995) included LUCs, pre-construction environmental assessments, maintenance of the existing pavement, monitoring of No Name Creek, and excavation of soil in the former wastewater sludge disposal area. The impacted soil was removed in 1997.

The first 5-year ROD review was completed in 2003 as part of the Consolidated 5-Year ROD Review, and the remedy was determined to be protective of human health via direct soil exposure routes. However, determining protectiveness via the vapor intrusion pathway required collection of soil vapor samples in 2004 as part of the supplemental FS for OU 6. The soil vapor samples were collected and analyzed, and a report is in preparation.

PATH FORWARD

The human health risk assessment is being updated using industrial worker exposure scenarios and updated risk assessment guidance, and the protectiveness from vapor intrusion will be determined. An ESD to the ROD is expected in 2006, with corresponding RC status for OU 3. LTM will continue to ensure LUCs remain effective.

IRP STATUS

RRSE Rating:	Not Evaluated (Remedy in Place)
Constituents:	VOCs, SVOCs, petroleum hydrocarbons, metals
Affected Media:	Soil
Completed IRP Phases:	PA, SI, RI/FS, RD, RA-C, Remedial Action – Operation (RA-O)
Current IRP Phase:	LTM
Future Phases:	RC



DSCR – DSERTS SITE 032

FORMER FIRE TRAINING AREA GROUNDWATER: OU 7

SITE DESCRIPTION

The former FTA (OU 7) is located in the southern portion of the installation (Figure 5). A correlation between constituents in the FTA soils and underlying groundwater was confirmed during the OU 4 RI in 1989. Groundwater constituents were determined to be CVOCs (i.e., PCE, TCE, and breakdown products) in both the upper and lower WBUs.

A supplemental OU 7 RI in 1996 summarized the extent of impacts in the FTA groundwater. Three separate plumes (one associated with each of three former pits) were identified, and two of the plumes were shown to have merged and were migrating southeast toward and beneath Kingsland Creek. The risk assessment showed unacceptable risk for off-site residential exposure to groundwater. An FS was also completed in 1996 and evaluated DPE as part of the overall remedial plan for OU 7. The FS was updated in 1999 to include evaluation of an *in situ*, density-driven convection technology for off-installation remediation. MNA was also investigated between 2001 and 2003 as a possible component of the final remedy. A Supplemental FS investigation was initiated in 2003 to address data needs for alternatives evaluation and remedy selection.

PATH FORWARD

Based on results of ongoing groundwater monitoring, natural attenuation processes appear to be occurring. The human health risk assessment will be updated for on-site industrial worker exposure scenarios and updated risk assessment guidance. A revised FS is scheduled for completion in 2006. The final remedy for OU 7 has not been selected; however, based on existing OU-specific data, a remedial alternative, including LUCs, MNA, as well as other regulatory

acceptable remedial alternatives may be considered. A Record of Decision and RD are projected for 2007, with RA-C consisting of source area treatment in 2010. RA-O consisting of MNA is expected from 2009 until 2021 when RC is expected. LTM is expected to continue until 2023 (one Five-Year Review beyond RC).

IRP STATUS

RRSE Rating:	High Risk (off-site groundwater impacts)
Constituents:	PCE, TCE, degradation products
Affected Media:	Groundwater
Completed IRP Phases:	PA, SI
Current IRP Phase:	RI/FS
Future Phases:	RD, RA-C, RA-O, RC, LTM



DSCR – DSERTS SITE 033 POST EXCHANGE GAS STATION

SITE DESCRIPTION

The Post Exchange Gas Station (PX Station) is located in the southeastern portion of the installation (Figure 5) and still dispenses gasoline. In May 1987, a leak of about 4000 gallons of unleaded gasoline was discovered from a UST through inventory tracking. The leaking UST was excavated and removed from service in July 1987.

Monitoring wells were installed by the United States Geological Survey in 1988 and 1989 to determine the extent of impacts. The site characterization report was submitted in 1990. Free product was discovered in two wells in 1993 and was removed weekly while a CAP was prepared (submitted in 1995). An air sparging system with groundwater and free product recovery was unsuccessfully pilot-tested in 1995, and the results were submitted in 1996. The revised CAP submitted in 1997 outlined a program using MNA to remediate the plume.

A treatability study was performed in 1997 consisting of a free product recovery system (System A) and a pumping well (System B) to limit plume migration by influencing the local groundwater gradient. System A operated until 2000, and System B operated until 2001. The systems have not operated on a regular basis since 2001. Free product was last encountered in 2003.

Between 2001 and 2003, quarterly groundwater monitoring was performed to evaluate the progress of MNA at the PX Station. In February 2003, free product was detected in two wells and was subsequently removed as specified by the CAP. Sampling was last performed in 2004.

PATH FORWARD

Based on results of ongoing groundwater monitoring, natural attenuation processes appear to be occurring.

A remediation system (air sparge system) to treat groundwater impacts in the source area is planned. System operation will be accompanied by MNA. RC is expected by 2011, and LTM is expected to continue until 2013 (one Five-Year Review beyond RC).

IRP STATUS

RRSE Rating:	Not Evaluated (Remedy in Place)
Constituents:	Petroleum hydrocarbons, benzene, ethylbenzene, toluene, xylenes
Affected Media:	Groundwater
Completed IRP Phases:	PA, RI/FS
Current IRP Phase:	RD
Future Phases:	RA-C, RA-O, RC, LTM



DSCR – DSERTS SITE 034

OPEN STORAGE AREA, AREA 50, AND NATIONAL GUARD AREA

GROUNDWATER: OU 6 & 9

SITE DESCRIPTION

Impacted groundwater in the upper and lower WBUs beneath and downgradient of the OSA, the Area 50 landfill, and the NGA was designated as OU 6 (Figure 4). The Area 50 landfill (OU 2) is believed to be the primary source of impacts at OU 6. The RI was conducted in 1989 and updated in 1994 to include a risk assessment due to off-site plume migration to the east. Use of the upper WBU off-site as a future residential potable water source exhibited unacceptable risk to human health.

A ROD for an IRA at OU 6 (designated OU 9) was signed in 1993. The IRA consisted of a groundwater extraction and air-stripping system to reduce mass and limit further transport of impacted groundwater off-site. An ESD to the ROD was approved in 1995 to replace reinjection of treated groundwater with discharge to Falling Creek Tributary. Construction was completed in 1996, and the OU 9 system has operated periodically since. DSCR was issued a NOV in 2001 due to an accidental release of untreated groundwater to No Name Creek during a failure of the treatment system. A CAP was submitted in 2002 to resolve the NOV.

An FS was conducted in 1995, followed by a pilot test to evaluate DPE as a treatment technology. The results of the pilot test, submitted in 2000, were unfavorable for full-scale implementation.

MNA was investigated between 2000 and 2003 as a possible component of the final remedy. Subsurface conditions are favorable for MNA in both the upper and lower WBUs, and there is evidence of abiotic degradation of CVOCs. A Supplemental FS Investigation was initiated in 2003 to address remaining data needs for remedy selection.

PATH FORWARD

Based on results of ongoing groundwater monitoring, natural attenuation processes appear to be occurring. A rebound test of the treatment system is scheduled for 2005. Results of the supplemental FS will be reported in 2006, along with an updated human health risk assessment based on on-site industrial worker scenarios and off-site residential exposure to groundwater, and updated risk assessment guidance.

The final remedy for OU 6 has not been selected; however, based on OU-specific data, a remedial alternative, including LUCs, MNA, as well as other regulatory acceptable remedial alternatives may be considered. The ROD for OU 6 is expected in 2008, with RD to follow in 2009, and RA-C consisting of source area treatment in 2010. RA-O consisting of MNA is expected from 2009 until 2021 when RC is expected. LTM is expected to continue until 2023 (one Five-Year Review beyond RC). OU 9 will either be incorporated into the final remedy for OU 6, or decommissioned upon implementation of the final remedy for OU 6.

IRP STATUS – OU 6

RRSE Rating:	High Risk (off-site groundwater impacts)
Constituents:	PCE, TCE, degradation products
Affected Media:	Groundwater
Completed IRP Phases:	PA, SI
Current IRP Phases:	RI/FS, IRA
Future Phases:	RD, RA-C, RA-O, RC, LTM

IRA STATUS – OU 9

Completed IRP Phases:	RD, RA-C
Current IRP Phase:	RA-O
Future Phase:	RC



DSCR – DSERTS SITE 036

ACID NEUTRALIZATION PIT GROUNDWATER: OU 8

SITE DESCRIPTION

The ANPs are two former concrete settling tanks near the northern end of Warehouse 65 (Figure 3). As a result of the 1990 RI for the ANP soils (OU 5), groundwater beneath and downgradient from the ANP site was designated OU 8 and considered separately from the soil.

A treatability study to determine the effectiveness of a DPE system to remove CVOCs from groundwater began in 1997. During the first year of system operation, constituent concentrations decreased significantly in all but two wells. Increasing CVOC concentrations and the unexpected presence of trihalomethanes in wells were considered due to migration under the influence of the extraction system. Otherwise, the results of the study were favorable, and operation of the system and performance monitoring continued. MNA was also evaluated as a possible component of the final remedy.

When CVOC concentrations reached asymptotic levels in the treatment system influent, a rebound test was initiated in 2004 as part of a Supplemental FS. The treatment system was shut off and CVOC concentrations were monitored quarterly for one year. Preliminary results suggested that a rebound of CVOC concentrations is occurring at OU 8.

PATH FORWARD

Based on results of ongoing groundwater monitoring, natural attenuation processes appear to be occurring. The final results of the rebound test are expected in 2005, and the risk assessment and FS also will be revised in 2005. The human health risk assessment will be updated for on-site industrial worker exposure scenarios and updated risk assessment guidance. The final remedy for OU 8 has not been selected; however, based on existing OU-specific data, a remedial alternative, including LUCs, MNA, and enhanced MNA

as well as other regulatory acceptable remedial alternatives may be considered. The ROD is scheduled to be signed in 2006, and RA-C will follow in 2007. RA-O (MNA monitoring) is expected from 2008 until 2021 when RC is expected. LTM is expected to continue until 2023 (one additional Five-Year Review beyond RC).

IRP STATUS

RRSE Rating:	High Risk (groundwater impacts, potential to migrate off-site)
Constituents:	PCE, TCE, degradation products, trihalomethanes
Affected Media:	Groundwater
Completed IRP Phases:	PA, SI
Current IRP Phase:	RI/FS
Future Phases:	RD, RA-C, RA-O, RC, LTM



DSCR – DSERTS SITE 37

POLYCYCLIC AROMATIC HYDROCARBON AREA: OU 13

SITE DESCRIPTION

The PAH area (OU 13) is located in the south-central portion of the installation along the southern boundary adjacent to Kingsland Creek (Figure 5). The PAH area is near the former location of an aboveground fuel oil storage tank. Soil impacts are believed to be the result of a tank spill in 1978, releasing an estimated 10,600 gallons of fuel oil. Oil and water collected in the PAH area, and it was subsequently covered with between 4 and 10 feet of clean fill. The area continues to serve as storage for construction debris.

The PAH area was characterized in 1992 during an investigation at the FTA (OU 4). Soil contained PAHs, PCBs, and pesticides, while groundwater contained PAHs, PCBs, and metals. The area was subsequently designated OU 13.

Additional sampling was performed in 1993 to further characterize the extent of PAH impacts. Soils were inspected for staining, odor, and elevated PID readings. An oily black-stained layer between 3 and 12 inches thick was confirmed in the unsaturated zone, 4 to 6 feet below ground surface. An investigation of drainage pathways for the PAH area was conducted in 1995, and PAHs were detected in storm sewer system outfalls.

An RI was completed in 1997 and submitted in 1999. The human health risk assessment calculated unacceptable soil risk for future residential use and occupational (construction worker) use. Arsenic was recently detected in surface soils in a low-lying wooded area of OU 13. Concentrations are being evaluated with respect to ecological impact.

PATH FORWARD

An ecological risk assessment and a revised FS are currently underway to assist in remedy selection. In addition, a revised human health risk assessment will

be performed using industrial worker risk scenarios only and updated risk assessment guidance, and the results will be reported in the revised FS scheduled for 2006. The final remedy for OU 13 has not been selected; however, based on existing OU-specific data, a remedial alternative including a low permeability cover, soil removal, LUCs as well as other regulatory acceptable remedial alternatives may be considered. A ROD for OU 13 is scheduled for 2006, with an RD and RA to follow in 2007. RC is expected in 2012. LTM is expected to continue after RC.

IRP STATUS

RRSE Rating:	Low Risk
Constituents:	PAHs, petroleum hydrocarbons, metals, PCBs, pesticides
Affected Media:	Soil
Completed IRP Phases:	PA, SI
Current IRP Phase:	RI/FS
Future Phases:	RD, RA-C, RC, LTM



SCHEDULE

Activities Completed

Completed RI

<u>Site</u>	<u>Date Completed</u>
028 OSA (OU 1)	September 1990
009 Area 50 Landfill (OU 2)	June 1994
031 National Guard Area (OU 3)	June 1994
017 FTA (OU 4)	December 1996
027 ANP (OU 5)	September 1990
034 Area 50 Groundwater (OU 6 and 9)	June 1994
032 FTA Groundwater (OU 7)	December 1996
036 ANP Groundwater (OU 8)	October 1995
006 Building 68 (OU 10)	January 1998
002 TS 202 (OU 11)	July 1997
014 Building 112 (OU 12)	June 2000
037 PAH Area (OU 13)	July 1999
033 PX Gas Station (CAP approved)	February 1995
Revised CAP approved	January 1997

Completed FS

028 OSA (OU 1)	November 1991
031 National Guard Area (OU 3)	February 1995
017 FTA (OU 4)	August 1997
027 ANP (OU 5)	November 1991
014 Building 112 (OU 12)	March 2005
033 PX Gas Station (2nd Revised CAP approved)	January 1997
002 OU 11	January 2000
006 OU 10	March 2000

ROD

028 OSA (OU 1) - Interim	May 1992
031 National Guard Area (OU 3)	October 1995
032 FTA (OU 4)	June 1999
027 ANP (OU 5) - Interim	March 1992
034 Area 50 Groundwater Interim Action (OU 9) – Interim	September 1993

ESD

027 ANP (OU 5)	September 1995
034 Area 50 Groundwater Interim Action (OU 9)	September 1995

SCHEDULE

Completed RD

<u>Site</u>	<u>Date Completed</u>
031 National Guard Area (OU 3)	December 1996
027 ANP (OU 5)	December 1992
034 Area 50 Groundwater Interim Action (OU 9)	November 1994
033 PX Gas Station	June 1995

Completed RA Construction

031 National Guard Area (OU 3)	July 1997
027 ANP (OU 5)	December 1992
034 Area 50 Groundwater Interim Action (OU 9)	November 1996
033 PX Gas Station	June 1995

Completed 5 Year ROD Review

028 OSA (OU 1)	August 1997
028, 031, 034 Consolidated (OU 1, OU 3, and OU 9) (Protectiveness determination pending)	July 2003

SCHEDULE

Current Activities (FY 05)

Current Activities (FY 05)

Site	Current Activity
028 OSA (OU 1)	LTM
009 Area 50 Landfill (OU 2)	Revised FS
031 National Guard Area (OU 3)	LTM
017 FTA (OU 4)	RD
027 ANP (OU 5)	LTM
034 Area 50 Groundwater (OU 6 and 9)	Supplemental FS/Baseline Risk Assessment (OU 6), RA-O (OU 9)
032 FTA Groundwater (OU 7)	Supplemental FS/Baseline Risk Assessment (BRA)
036 ANP Groundwater (OU 8)	Supplemental FS/BRA
006 Building 68 (OU 10)	Revised FS/BRA
002 TS 202 (OU 11)	Revised FS/BRA
014 Building 112 (OU 12)	Revised FS/Proposed Plan
037 PAH Area (OU 13)	Revised FS/BRA
033 PX Gas Station	RD

SCHEDULE

Future Activities

<u>Site</u>	<u>Planned Activity</u>	<u>Date</u>
028 OSA (OU 1)	Finalize ROD/RC	2006
	Next 5-Year Review	2008
009 Area 50 Landfill (OU 2)	FS	2006
	ROD	2006
	RD	2007
	RA	2008
	*RC	2014
	LTM (begins)	2009
031 National Guard Area (OU 3)	ESD/RC	2006
	Next 5-Year Review	2008
017 FTA (OU 4)	ROD Amendment	2006
	RC	2011
	LTM	2006
027 ANP (OU 5)	Preliminary Closeout Report	2005
	SC	2007
034 Area 50 Groundwater (OU 6 and 9)	FS (OU 6)	2008
	ROD (OU 6)	2008
	RD (OU 6)	2009
	RA (OU 6)	2010
	RC (OU 6)	2021
	LTM (begins)	2022
	Next 5-Year Review (OU 9)	2008
032 FTA Groundwater (OU 7)	FS	2007
	ROD	2007
	RD	2008
	RA	2010
	RC	2021
	LTM (begins)	2022
036 ANP Groundwater (OU 8)	FS	2006
	ROD	2006
	RD	2006
	RA	2007
	RC	2021
	LTM (begins)	2022

SCHEDULE

Future Activities

<u>Site</u>	<u>Planned Activity</u>	<u>Date</u>
006 Building 68 (OU 10)	FS	2006
	ROD	2006
	RD	2006
	RA	2007
	*RC	2013
	LTM (begins)	2008
002 TS 202 (OU 11)	FS	2005
	ROD	2006
	RD	2006
	RA	2007
	*RC	2012
	LTM (begins)	2008
014 Building 112 (OU 12)	FS	2005
	ROD	2005
	RD	2005
	RA	2006
	*RC	2011
	LTM (begins)	2006
037 PAH Area (OU 13)	FS	2006
	ROD	2006
	RD	2006
	RA	2006
	*RC	2012
	LTM (begins)	2007
033 PX Gas Station	RD	2006
	RA	2007
	RC	2011
	LTM (begins)	2011

* RC projected after the initial 5 years of LTM

Completion of the IRP is projected in 2021: all OUs expected to be RIP/RC

Deletion from the NPL is targeted for 2024

SCHEDULE



- Current DSERTS Phase



- Future DSERTS Phase

DSERTS #	Phase	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
002 (OU 11)	RI/FS											
	RD											
	RA-C											
	RA-O											
	LTM											
006 (OU 10)	RI/FS											
	RD											
	RA-C											
	RA-O											
	LTM											
009 (OU 2)	RI/FS											
	RD											
	RA-C											
	RA-O											
	LTM											
014 (OU 12)	RI/FS											
	RD											
	RA-C											
	RA-O											
	LTM											
017 (OU 4)	RD											
	LTM											
027 (OU 5)	LTM											
028 (OU 1)	LTM											
031 (OU 3)	LTM											
032 (OU 7)	RI/FS											
	RD											
	RA-C											
	RA-O											
	LTM											

SCHEDULE



- Current DSERTS Phase

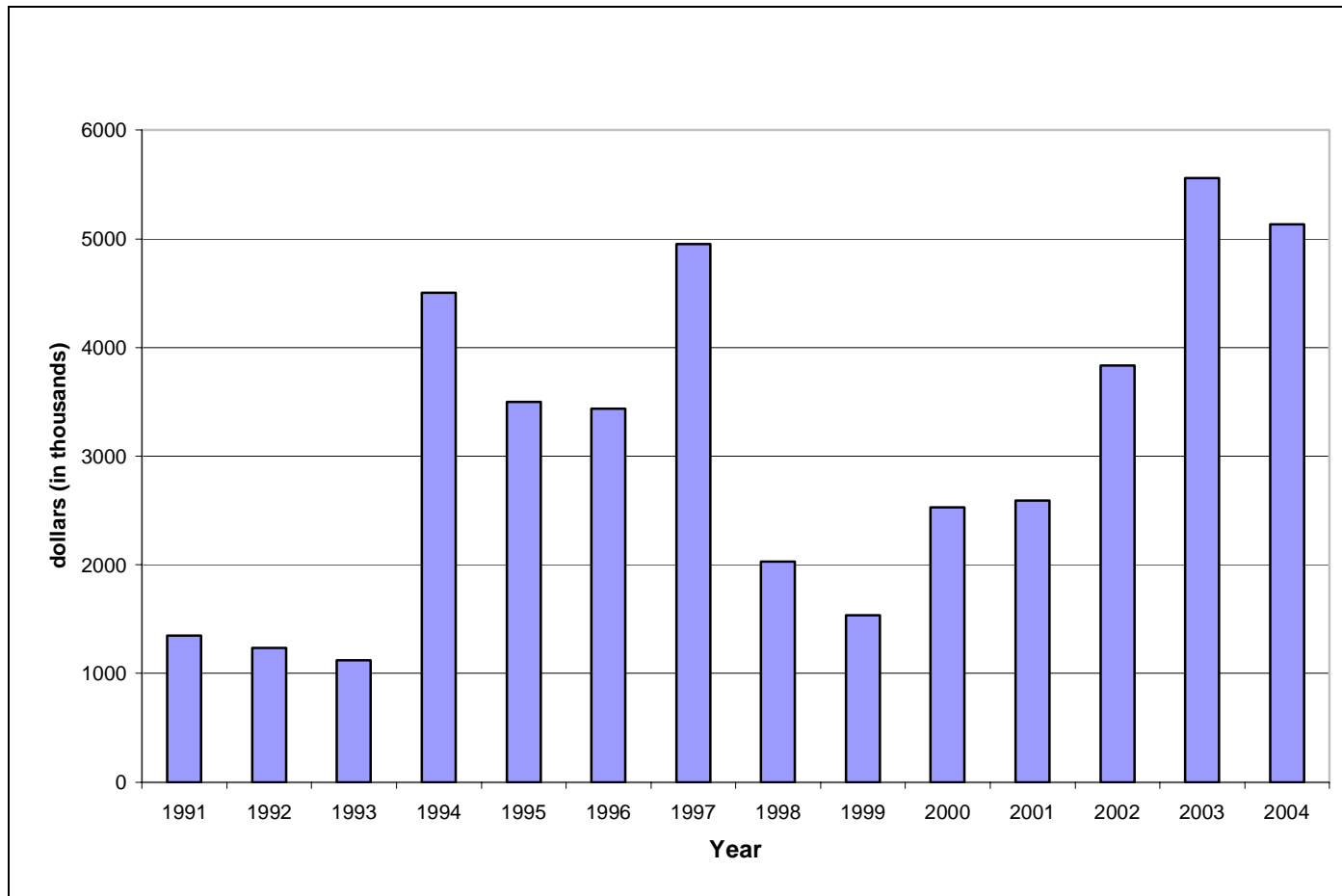


- Future DSERTS Phase

DSERTS #	Phase	FY 05	FY 06	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
033 (PX)	RD											
	RA-C											
	RA-O											
	LTM											
034 (OU 6)	RI/FS											
	RD											
	RA-C											
	RA-O											
	LTM											
034 (OU 9)	RA-O											
036 (OU 8)	RI/FS											
	RD											
	RA-C											
	RA-O											
	LTM											
037 (OU 13)	RI/FS											
	RD											
	RA-C											
	RA-O											
	LTM											

PRIOR FISCAL YEAR FUNDING

- Compiled from multiple sources*
- Cumulative Costs Through FY04 = \$49,380,000



* FY - 1991-1995 from previous MAP
FY 1995-2004 from DLA (P. Dawson)

DSCR-Richmond DERA Cost to Complete
\$ in Thousands

Site Activity	Operable Unit	DSERTS Site	All Phases	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12-Out	Total
DSCR-Richmond	OU 11	002	Total	\$ 322	\$ 95	\$ 501	\$ 65	\$ 48	\$ 11	\$ 13	\$ 297	\$ 1,352
DSCR-Richmond	OU 10	006	Total	\$ 321	\$ 87	\$ 157	\$ 69	\$ 52	\$ 14	\$ 17	\$ 299	\$ 1,014
DSCR-Richmond	OU 2	009	Total	\$ 357	\$ 160	\$ 119	\$ 1,533	\$ 88	\$ 54	\$ 54	\$ 1,419	\$ 3,784
DSCR-Richmond	OU 12	014	Total	\$ 254	\$ 35	\$ 35	\$ 35	\$ 35	\$ 14	\$ 14	\$ 460	\$ 881
DSCR-Richmond	OU 4	017	Total	\$ -	\$ 35	\$ 35	\$ 55	\$ 35	\$ -	\$ -	\$ 110	\$ 269
DSCR-Richmond	OU 5	027	Total	\$ 1	\$ 61	\$ 35	\$ 35	\$ 35	\$ -	\$ -	\$ -	\$ 166
DSCR-Richmond	OU 1	028	Total	\$ 17	\$ 35	\$ 35	\$ 55	\$ 35	\$ -	\$ -	\$ 110	\$ 285
DSCR-Richmond	OU 3	031	Total	\$ 7	\$ 51	\$ 35	\$ 55	\$ 35	\$ -	\$ -	\$ 110	\$ 292
DSCR-Richmond	OU 7	032	Total	\$ 901	\$ 485	\$ 287	\$ 314	\$ 1,862	\$ 291	\$ 291	\$ 1,694	\$ 6,126
DSCR-Richmond	PX Gas Station	033	Total	\$ -	\$ 341	\$ 367	\$ 159	\$ 159	\$ 124	\$ 108	\$ 158	\$ 1,416
DSCR-Richmond	OU 6 & 9	034	Total	\$ 901	\$ 1,399	\$ 3,706	\$ 300	\$ 316	\$ 418	\$ 418	\$ 2,783	\$ 10,240
DSCR-Richmond	OU 8	036	Total	\$ 166	\$ 908	\$ 819	\$ 254	\$ 270	\$ 85	\$ 85	\$ 1,418	\$ 4,005
DSCR-Richmond	OU 13	037	Total	\$ 322	\$ 422	\$ 35	\$ 55	\$ 35	\$ -	\$ -	\$ 110	\$ 978
<i>*DSCR-Labor</i>				\$ 300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 300
				\$ 3,869	\$ 4,113	\$ 6,163	\$ 2,981	\$ 3,003	\$ 1,010	\$ 999	\$ 8,970	\$ 31,107

*Projected costs for DSCR Labor are included in total costs for FY06 and out.

Source: DSCR, May 2005.

COMMUNITY INVOLVEMENT

To comply with the provisions of the FFA after the installation was placed on the NPL in 1987, a community relations plan (CRP) was implemented. The CRP identified issues of community interest and outlined community relations issues to be addressed. The Technical Review Committee (TRC) began meeting in October 1991 and included members of USEPA, DLA, VDEQ, and USACE as well as representatives from Chesterfield County, DGSC, and the environmental contractors. The CRP was updated in 1992 to include regular newsletters, interviews, public notices, and meetings with community members and interest groups.

In 2001, due to proximity of the installation to residential and commercial areas and the growing concern of the local stakeholders, TRC determined the need to improve communication of the cleanup activities. In January 2002, a Restoration Advisory Board (RAB) was formed to provide a regular forum for community members to provide input to the environmental restoration program. The RAB includes members from the community and one member each from DSCR, VDEQ, USEPA, and Chesterfield County. The RAB meets monthly to discuss restoration program progress and other issues.

The DSCR Public Affairs Office, assisted by the Environmental Office, takes the lead in public involvement activities. In 2003, a Community Involvement Plan (CIP) was formulated that identified specific activities and outreach programs that DSCR would use to address community concerns.

The administrative record is housed in Building 80 at the facility and at the Chesterfield County Library. An on-line version established in 2003 provides the public with 24-hour access to all of the documents and explains cleanup actions at DSCR, including work plans, technical reports, maps, materials for public comment, and program and policy guidance (available at www.adminrec.com).